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Amendments to the Claims:

Please cancel claims 1-30 and add claims 31-71.

Listing of Claims:

This Listing of Claims will replace all prior versions, and listings, of claims in this application:

No Admission. The claims presented below are labeled pursuant to the request of the Patent and Trademark Office for convenience in examination. The cancellation of a claim or reference to a claim as "currently amended" is not an admission that the claim was altered for any reason related to patentability. None have been so altered.

- 1-30. (Canceled)
- 31. (New) An isolated polynucleotide which encodes an adipocyspin polypeptide.
- 32. (New) A recombinant polynucleotide according to claim 31.
- 33. (New) A polynucleotide according to claim 31 which is substantially pure.
- 34. (New) A polynucleotide according to claim 31 which encodes a human adipocyspin polypeptide.
- 35. (New) A polynucleotide according to claim 34 which comprises SEQ ID NO: 6.
- 36. (New) A polynucleotide according to claim 34 comprising a nucleotide sequence which encodes SEQ ID NO: 2.
- 37. (New) A polynucleotide according to claim 31 which encodes a rat adipocyspin, a mouse adipocyspin or a chicken adipocyspin.
- 38. (New) A polynucleotide according to claim 37 comprising a nucleotide sequence which comprises SEQ ID NO: 5, SEQ ID NO: 7 or SEQ ID NO: 8.

39. (New) A polynucleotide according to claim 37 which comprises a nucleotide sequence encoding SEQ ID NO: 1, SEQ ID NO: 9 or SEQ ID NO: 10.
40. (New) A polynucleotide which encodes an adipocypsin polypeptide variant and wherein said polynucleotide is able to hybridize to a polynucleotide of claim 31 under stringent conditions.
41. (New) A polynucleotide which encodes an adipocypsin polypeptide variant and wherein said polynucleotide is able to hybridize to a polynucleotide of claim 31 having a nucleotide sequence comprising SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7 or SEQ ID NO: 8 under stringent conditions.
42. (New) An expression vector comprising a polynucleotide of any of claims 31, 34 to 40 or 41.
43. (New) A cell comprising a vector of claim 42.
44. (New) A cell according to claim 43 which is an eukaryotic cell.
45. (New) A cell according to claim 44 which is a mammalian cell.
46. (New) A cell according to claim 43 which is a bacterial cell.
47. (New) An isolated adipocypsin polypeptide.
48. (New) A polypeptide according to claim 47 which is a recombinant polypeptide.
49. (New) A polypeptide according to claim 47 which is substantially pure.
50. (New) A polypeptide according to claim 49 wherein the polypeptide is more than 80% pure.
51. (New) A polypeptide according to claim 49 wherein the polypeptide is more than about 90% pure.
52. (New) A polypeptide according to claim 49 wherein the polypeptide is more than about 95% pure.

53. (New) A polypeptide according to claim 47 which comprises a human adipocyspin polypeptide.
54. (New) A polypeptide according to claim 53 which comprises SEQ ID NO: 2.
55. (New) An adipocyspin polypeptide variant having adipocyspin activity which comprises an amino acid sequence at least about 60% identical to SEQ ID NO: 2.
56. (New) An adipocyspin polypeptide fragment having adipocyspin activity which comprises an amino acid sequence at least about 60% identical to SEQ ID NO: 2.
57. (New) A polypeptide according to claim 47 which comprises a rat adipocyspin, a mouse adipocyspin or a chicken adipocyspin.
58. (New) A polypeptide according to claim 57 which comprises SEQ ID NO: 1, SEQ ID NO: 9 or SEQ ID NO: 10.
59. (New) An adipocyspin polypeptide variant having adipocyspin activity and which comprises an amino acid sequence which is at least about 60% identical to SEQ ID NO: 1, SEQ ID NO: 9 or SEQ ID NO: 10.
60. (New) An adipocyspin fragment having adipocyspin activity and which comprises an amino acid sequence which is at least about 60% identical to SEQ ID NO: 1, SEQ ID NO: 9 or SEQ ID NO: 10.
61. (New) A composition comprising a therapeutically effective amount of an adipocyspin polypeptide according to claim 47 and a pharmaceutically acceptable carrier.
62. (New) A composition according to claim 61 wherein the adipocyspin polypeptide is recombinant.
63. (New) A composition according to claim 62 wherein the adipocyspin polypeptide is substantially pure.
64. (New) A composition according to claim 63 wherein the adipocyspin polypeptide is more than 80% pure.

65. (New) A composition according to claim 63 wherein the adipocyspin polypeptide is more than about 90% pure.
66. (New) A composition according to claim 63 wherein the adipocyspin polypeptide is more than about 95% pure.
67. (New) A composition according to claim 61 wherein said adipocyspin polypeptide is a human adipocyspin.
68. (New) A method for decreasing adipose tissue mass in a subject which comprises administering to said subject an effective amount of an adipocyspin polypeptide of claim 47.
69. (New) A method according to claim 68 wherein said subject is a human.
70. (New) A method according to claim 68 wherein the adipocyspin polypeptide is administered in an amount effective to elicit a plasma adipocyspin polypeptide concentration between 1 $\mu\text{g/mL}$ and 20 $\mu\text{g/mL}$.
71. (New) A method according to claim 68 wherein the adipocyspin polypeptide is administered in an amount effective to elicit a plasma polypeptide concentration of between 1.9 $\mu\text{g/mL}$ and 17 $\mu\text{g/mL}$.